

ABSTRACT

Background and Objectives:

Shivering is very unpleasant and stressful for the patient after undergoing a comfortable analgesic surgery. It may induce arterial hypoxemia, lactic acidosis, increased intracranial pressure and intraocular pressure, interferes with haemodynamics and increase wound pain. Various pharmacological and non-pharmacological methods are available for control of shivering. Drugs like Clonidine, Doxapram, Pethidine, Tramadol etc have been tried but debate on an ideal antishivering drug still continues. Thus in a patient with limited myocardial oxygen reserve or known coronary artery disease, shivering may further compromise myocardial function. Here we are comparing a synthetic opioid, IV Tramadol at 1mg/kg with IV Pethidine 0.5mg/kg, standard drug for treatment of shivering in quest for a more safe and efficacious drug.

Materials and Methods:

Seventy four patients who developed shivering after elective surgery under spinal anaesthesia were randomized into two groups each having thirty seven patients-tramadol group (Group 1) and pethidine group (Group 2). Patients were treated with 1mg/kg tramadol (Group 1) and 0.5mg/kg pethidine (Group 2). Haemodynamic stability, onset of action of each drug and side effects were closely monitored at different time intervals before shivering, during shivering and at 5 minute interval for 15 minutes. All patients were

given spinal anaesthesia with 0.5% heavy bupivacaine. All the patients with shivering were administered oxygen at 6 L/min via venti mask.

Statistical Analysis:

Based on the ratio between recurrence of shivering with reference from study of Aditi.A Dhimer, with α error-5%, power-95%, sample size on each arm found to be 37 each, using EZR version 1.1 on R commander version 1.8-4.

Results: After intravenous administration of tramadol 1 mg/kg, cessation of shivering occurred immediately. Shivering lasted for more time after administration of pethidine 0.5 mg/kg. Recurrence rate in tramadol group was found to be less than pethidine group. Nausea and vomiting was more in tramadol group.

Conclusions: Intravenous tramadol is more effective than pethidine in controlling post spinal anaesthesia shivering. Tramadol has less response rate and recurrence. It is cheap as compared to pethidine and freely available without drug licence.

Keywords: Tramadol, Pethidine, postoperative shivering, spinal anaesthesia